# RPX900D

# INDUSTRIAL EVAPORATIVE AIR COOLERS



Assembly Instructions





## RPX ASSEMBLY INSTRUCTIONS

## INDEX

Description	Page
Index	2
Important Notice/ Tools required	3
Installing Fan Housing to Tank 1/5	5
Installing Top Channel	10
Sealing Fan Housing to Tank 1/2	11
Sealing Fan Housing to Tank Bottom	13
Prepare Motor and Controls 1/4	14
Fan Pulley Attachment	18
Fit and Tension V Belts	19
Fitting the Water Pumps	20
Connecting the Water System	21
Corner Pillar Installation	22
Centre Rail Installation	23
Top Rail Installation 1/2	24
Bottom Rail Installation	26
Centre Pillar Installation	27
Water Spreader Installation	28
Distributor Cap Installation	29
Water Distributor Connection 1/2	30
Installing Cab Top Blanking Cover	32
Cabinet Top Installation 1/2	33
Squaring the Cooler	35
Cabinet Top Final Assembly 1/3	36
Final Riveting	39
Installing the Bleed Tap	40
Clean and Test Cooler	41
Washer Part Numbers	42
Bolt and Nut Part Numbers	43
Screw and Rivet Part Numbers	44
Panel Part Numbers	45
Miscellaneous Part Numbers 1/2	47
Special jig securing Flashing Angle	49
RPX 900 D Kit 1/2	50
RPX 900 D&T Pallet Specifications.	52
RPX 900 T Exploded View	53
3 Phase Wiring Diagram	54





#### **IMPORTANT NOTICE**

The assembly of evaporative air conditioning units has the potential to create Occupational Health and Safety issues for those involved. Assemblers are advised to ensure they are familiar with relevant State and Federal legislation, such as Acts, Regulations, approved Codes of Practice and Relevant Standards, which offer practical guidance on these health and safety issues. Companies with these regulations will require appropriate work practices, equipment, training and qualification of workers.

#### Note:

Stainless steel bolts and nuts are used in the assembly of coolers. A thread lubricating compound anti seize should be used at assembly. (Anti Seize not supplied)

#### **Tools Required**



Pneumatic Drill.



Pneumatic Riveter Long nose type.



Pneumatic Driver.



Pneumatic Silicone Applicator.







## **Tools Required cont.**



Screwdriver No3.



Spanners 10 and 13mm



Hex Key 4mm.



Hex Key 5mm.



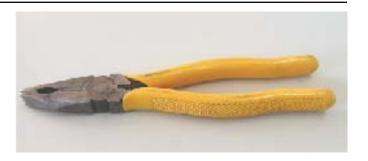
Metal twist drill 5mm



Metal twist drill 6.5mm



Metal twist drill 12.5mm.



Pliers.





### Installing Fan Housing to Tank. Step 1 of 5.

Select Base Frame and Tank Assembly for Down discharge model.



1

Place supplied Template to top of Tank.

3

5



Align holes with template bolts.



Mark with text pen, inside edge of template.



Drill 6 mm hole to corners of template. Total four.



Remove template, place 20 mm hole saw to 6mm hole and drill through. Total four.



Use Jig saw and cut along marked line.



### Installing Fan Housing to Tank. Step 2 of 5.

Installing Base Channels.



Tank to accept square end of Fan Housing.

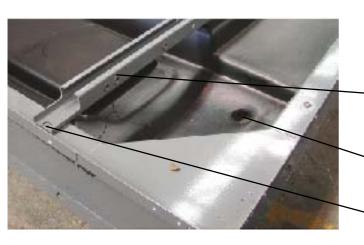


Place Base Channels on Base Frame Assembly.

R/H Base Channel Part No 623160.

L/H Base Channel Part No 627168.

Base Frame Assembly.



#### Note:

Position of Base Channel to Base Frame Assembly Insert holes for motor platform nearest to drain hole.

Drain Hole.

Align Base Channel holes with Base Frame holes.

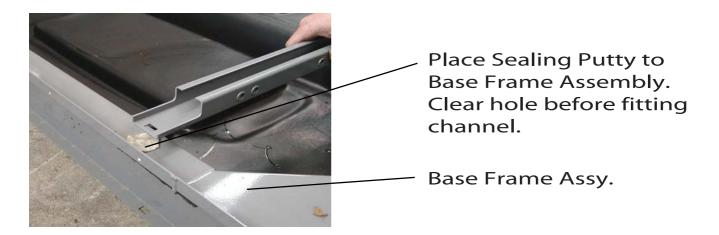




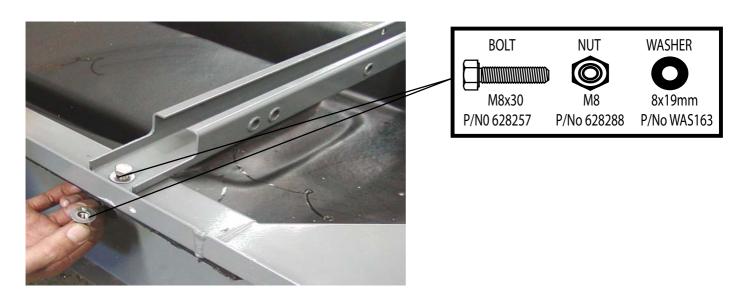


#### Installing Fan Housing to Tank. Step 3 of 5.

All holes and fasteners will need to be sealed to ensure there are no water leaks outside the cooler. "Virginia" Sealing Putty has been supplied for this task.



Secure Base Channel to Base Frame.



At this stage do not fully tighten bolts. Refer to notes on Page 17.

Repeat process for other ends of Base Channels.







### Installing Fan Housing to Tank. Step 4 of 5.



Use lifting crane to raise Fan Housing and H-Frame Assembly over Base Frame Assembly.

Align and lower bottom of fan housing to Tank cut out.

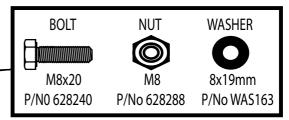
Align bottom hole of vertical channel to Base channel holes.

Secure Vertical Channel to Base Channel



Base Channel.

H-Frame Vertical Channel.



Note: 2 Bolts, 4 Washers and 2 Nuts per vertical Channel.





Repeat process for other three vertical channels.





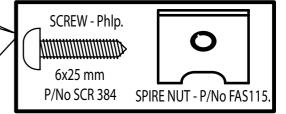
### Installing Fan Housing to Tank. Step 5 of 5.

Securing Base Channel to Fan Housing.



Secure Base Channel to Fan Housing.

Fix two Screws between Fan Housing and Base Channel.





Fit Spire Nut to end of Screws. Inside of Fan Housing.

Note: The Spire Nut can be fitted when Fan Housing assembly is tilted. Refer to notes on Page 13.

Repeat process for opposite side.





## **Installing Top Channel.**

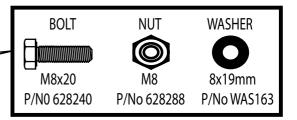


Install Top/Bearing Channel to Vertical Channels.

Part N/o 623139



Secure Channels. Tighten all bolts.



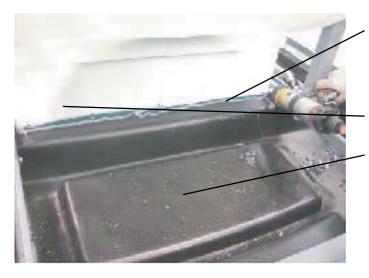
Repeat process for other end.





Repeat process for opposite side.

### Sealing Fan Housing to Tank. Step 1 of 2.

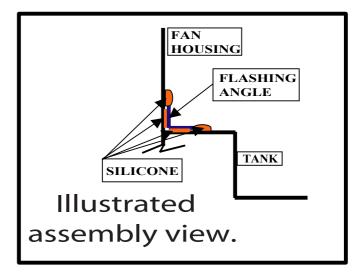


Apply a generous bead of silicone sealant along Fan Housing and Tank.

Fan Housing

Tank





Apply silicone sealant bead to Flashing Angle.

Flashing Angle P/No 100152



Place Flashing Angle to Fan Housing and Tank.

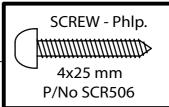




#### Sealing Fan Housing to Tank. Step 2 of 2.



Secure Flashing Angle to Fan Housing and Tank, with supplied screws: Total 10 places.



Note: If end of fan housing bows inwards and cannot be easily fixed, a special clamp can be utilised to aid fixing. P49 has details to enable manufacture of clamp.



Apply additional silicone to top and bottom edge of Flashing Angle.



Check that silicone has a good seal to Fan Housing and Tank. Smooth out silicone to give neat appearance.



Repeat Steps 1 & 2 for opposite side.



### **Sealing Fan Housing to Tank Bottom.**



Use crane to tilt cooler.



Silicone sealant between Fan Housing and Tank, apply thick bead to all four sides.

Fit spire nut to ends of screws. Refer to notes on Page 9.



Use crane and raise cooler to up right position.



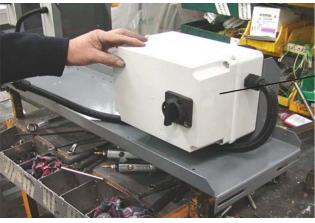


### Prepare Motor and Controls. Step 1 of 4.

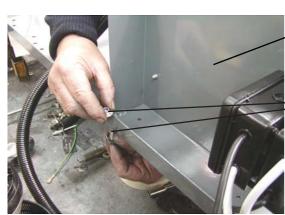


Place Motor Platform to a suitable work bench.

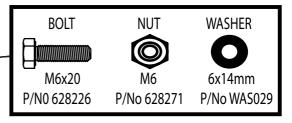
Note: Control box mounting holes.



Place Control Box and water pump assembly to motor platform.



Securing Control Box panel to Motor Platform.









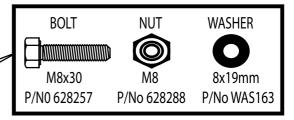
#### Prepare Motor and Controls. Step 2 of 4.



Use crane and fit electric motor to platform, align holes and secure with supplied fasteners.



Secure Motor to Platform.



Repeat for all 4 motor mounting bolts. Ensure motor is square to Platform. Tighten all bolts.



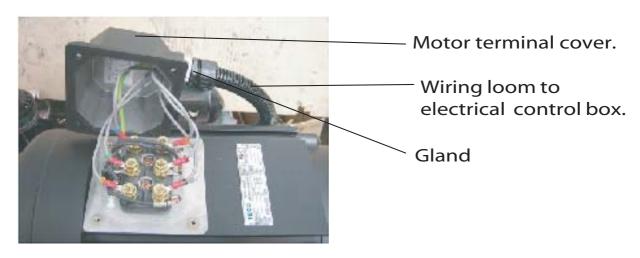




#### Prepare Motor and Controls. Step 3 of 4.

Feed seven wires from the electrcal control box wiring loom through the motor terminal cover opening.

Attach all wires and secure motor terminal cover.



Wire connection.

For low speed connect.

Wire, tag numbered 1 to U1

2 to V1

3 to W1

For high speed connect.

Wire, tag numbered 4 to W2

5 to U2

6 to V2

### Connect earth wire to motor casing earth point.



Cable tie wire loom to Motor Platform.



#### Prepare Motor and Controls. Step 4 of 4.



### **Motor Pulley Attachment**

The motor pulley attaches to the motor shaft via a Taper Lock Bush screwed to the Pulley.

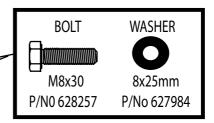
Do not fully tighten Bush locking screws now, Pulley may need to move on shaft to align V-Belts.



Use crane to install Motor Platform to Base Channels.

Base Channel.

Secure Motor Platform to Base Channels.



At this stage do not fully tighten. Refer to notes Belt Tension, P19.

### Note:

Fully tighten all Bolts securing Base Channel to Base frame.



Repeat same for opposite side.

### Fan Pulley Attachment.



Fit 460 mm Aluminium Pulley to the fan shaft.



Apply small amount Loctite 222 (not supplied) to Grub screws. Total 3 Grub screws.



Tighten All screws.

Allow shaft to extend approx 15mm passed pulley.

Use suitable straight edge, align Fan Pulley to Motor Pulley.

Align Fan Pulley and Motor Pulley.

Lock Screws on Motor Pulley Taper Bush.







#### **RPX ASSEMBLY INSTRUCTIONS**

#### Fit and Tension V-belts.



Fit two A91 supplied belts.



Apply tension to belts.

Tighten all bolts.



Repeat same for opposite side.

Use a suitable belt tension measuring tool, Set for recommended belt tension.

Deflection (cm) 1 Force (Kg) 1.5/1.7

If belt tension is not correct, loosen bolts and move Motor Assembly, re-tension and tighten bolts.







### Fitting the Water Pumps.

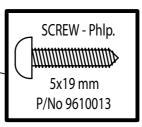


Position the two pumps at the corner of the tank, nearest control box.

Use pump brackets as template drill 4 mm holes.



Secure pumps with supplied screws.





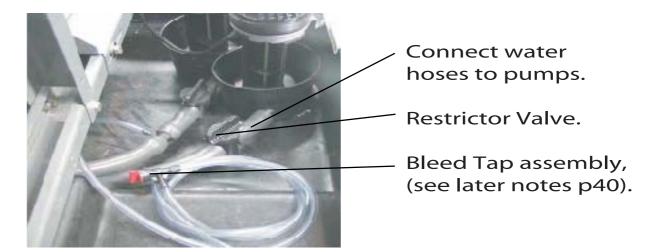
Ensure pumps leads are out of water.

Secure pumps leads with supplied cable ties, P/No FAS 213.

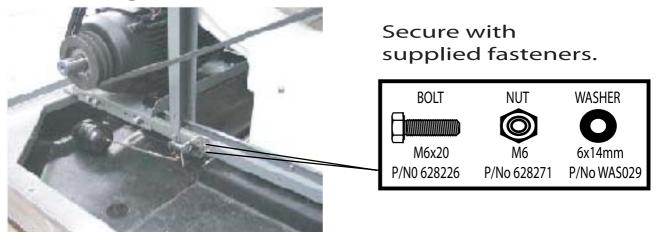




#### Connecting the water system.

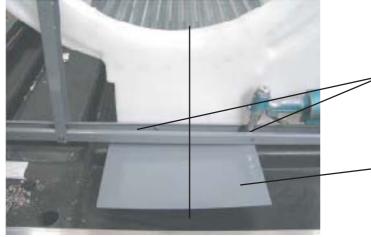


#### Connecting the Water Inlet and Float



Installing the Anti-Vortex panels.

Remove plastic film from panel, and secure with supplied rivets.



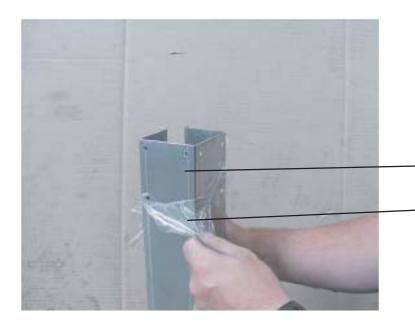
Note: Align Centre of Anti-Vortex panel to fan housing.



Repeat same for opposite side.



#### **Corner Pillar Installation.**



Remove plastic protective film.

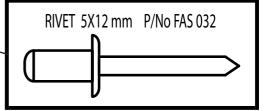
Corner Pillar.

Plastic protective film.



Rivet Corner Pillar to Base Frame.

Note: Hole location on corner pillar.



At this stage two rivets only, other rivets will be fitted, when cooler is squared, see notes Final Riveting P39.

Repeat for all corners of Base Frame.



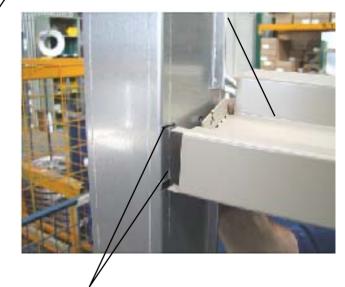


#### **Centre Rail Installation.**

Corner Pillar.

Centre Rail.





Align two tabs on Centre Rail to slots on Corner Pillar.





RIVET 5X12 mm P/No FAS 032

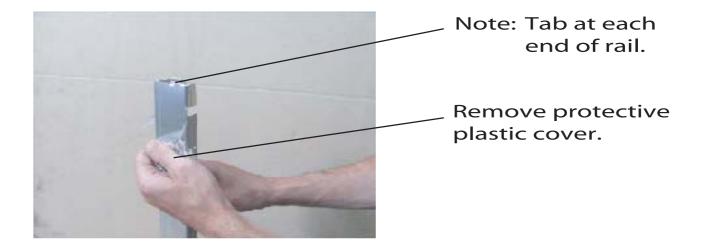
One Rivet, for each end.

Apply silicone to folded tag.

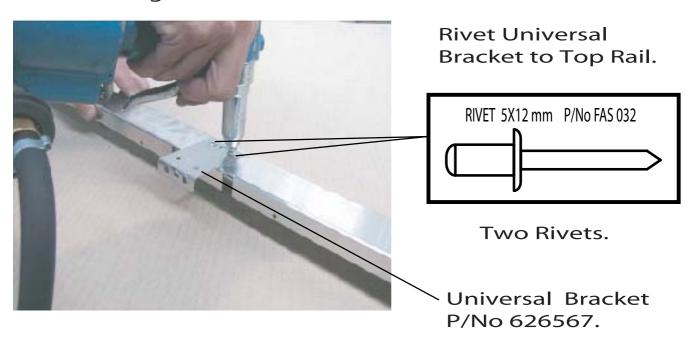


Repeat same for other end.

### Top Rail Installation. Step 1 of 2.



Fit Universal Bracket to Top Rail before fitting to Corner Pillar.







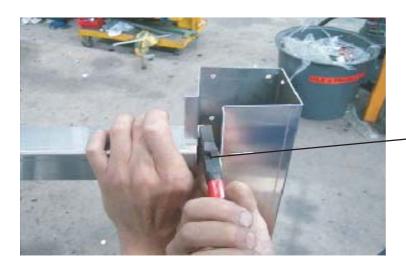
#### **RPX ASSEMBLY INSTRUCTIONS**

### Top Rail Installation. Step 2 of 2.



Fit Top Rail to Corner Pillar.

Align one tab on Top Rail, to slots on Corner Pillar.



Ensure Top Rail is hard against Corner Pillar.

Use suitable pliers twist Top Rail end tab inside Corner Pillar. This to ensure that assembly will not dislodge.



Top Rail.

Centre Rail.



Repeat same for all Top Rails.





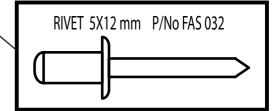
#### **Bottom Rail Installation.**



Bottom Rail.

Base Frame.

Place Bottom
Rail to inside edge
of Base Frame
and Rivet, to eight
points.



Repeat same for other three sides.

# Completed Assembly Top, Centre and Bottom Rails.







#### **Centre Pillar Installation**



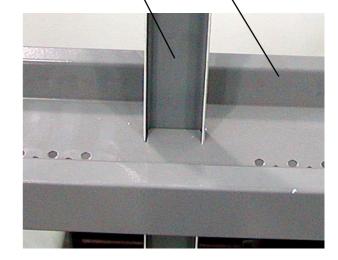
Ensure Centre Pillar end tab slots to Bottom Rail.

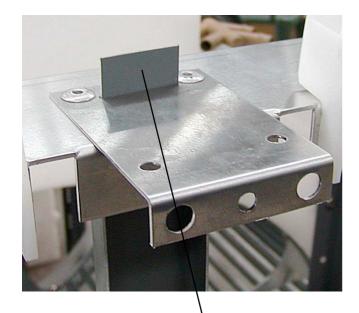
Select Centre Pillar and slide through Centre Rail slot.

Centre Rail. <

Centre Pillar.

Bottom Rail.





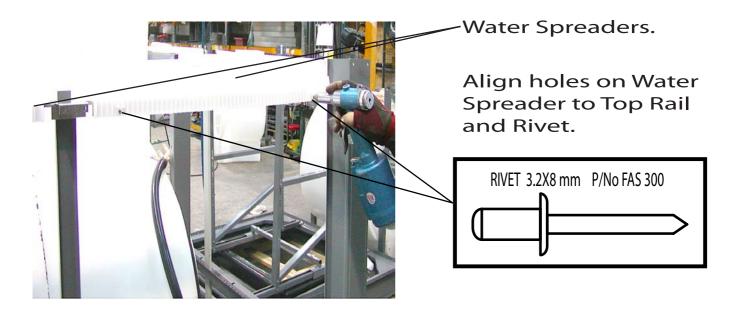
Do not fold tab.

Slightly raise centre of Top Rail, until Centre Pillar end tab passes through slot.

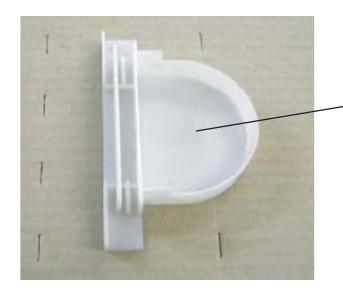




### Water Spreader Installation.



Repeat same for other three sides.

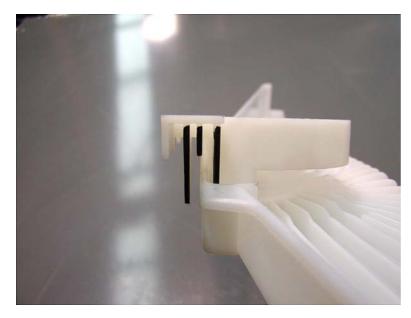


Water Distributor Cap.



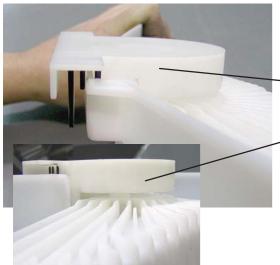


### **Distributor Cap Installation.**



Fit Distribution Cap to top of Water Spreader.

No securing is required, ensure cap is tightly pressed in position.



Repeat same for all Water Spreaders.

Note: Position of Distribution Cap to Water Spreader.

Complete assembly of Water Spreaders and Distributor Cap. Repeat same for other three sides.

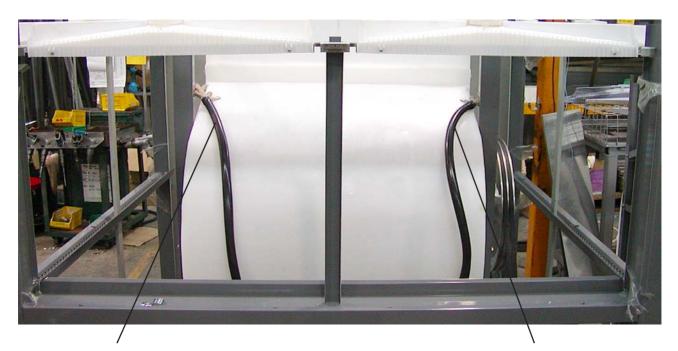






### Water Distribution Connection. Step 1 of 2.

Cooler is fitted with two Water Pumps.



L/H side Water Pump supply hose.

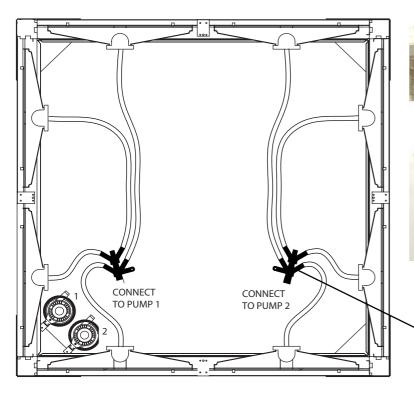
R/H side Water Pump supply hose.



Typical hose connection to Water Spreders Inlet. 8 places.



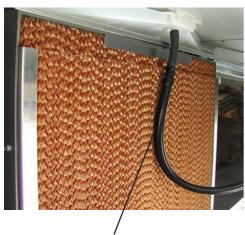
#### Water Distribution Connection. Step 2 of 2.



Water Pump (2) Supply hose.

Fit saddle to secure four way Distributor.

Typical Hose Connection to Water Spreaders. D&T Models.



Incorrect length Water supply hose.

Hoses may need to be trimmed to suitable length.



Hoses when fitted should not touch pads.



Repeat same for All water supply Hoses.

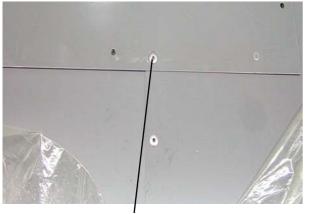
### **Installing Cab Top Blanking Cover.**



Select T Model Cabinet Top, place to suitable work frame.



Apply small bead of Silicone along cut out inside line of rivet holes.



Check alignment, for rivet clearance holes.



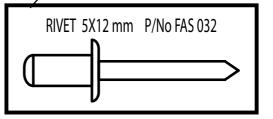
Remove film from cut out.



Fit Cab Top Blanking Cover.



Rivet Blanking Cover to Cab Top.

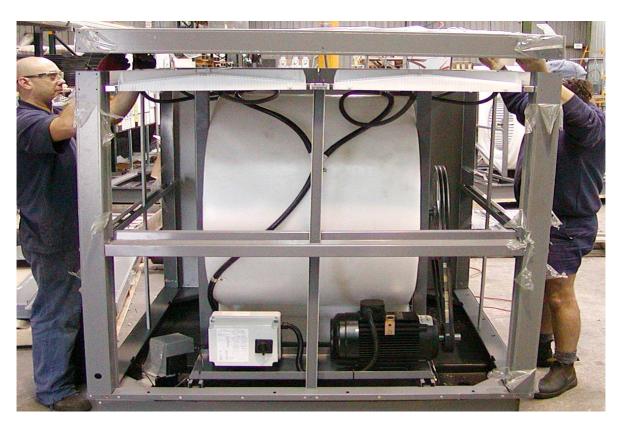






### Cabinet Top Installation. Step 1 of 2.

Place Cabinet Top onto Corner Pillars.



Note: Position of -Cabinet Top joined section.







### Cabinet Top Installation. Step 2 of 2.

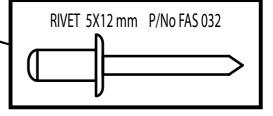


Cabinet Top.

Remove plastic protective cover from corners of 'Cabinet Top.



Rivet Cabinet Top Corners.



At this stage two rivets only.

Other rivets will be added when cooler is squared. See notes Final Riveting P39.

Repeat same for all corners.





### **Squaring the Cooler for Final Assembly.**



Use Supplied Braces to diagonally square cooler.

Fit all 4 Braces



If necessary drill 5 mm hole to clear aligning holes.



Distance between hole centres 1868mm.





### Cabinet Top Final Assembly. Step 1 of 3.



Top Channel.

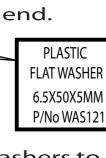
Drill two 12.5mm holes through Top Channel and Cab Top.

Drill one 6mm hole to centre Top Channel.

Note: Use 12.5 and 6 mm holes on Top Channel as guide.

Place plastic Washers between Cabinet Top and Top Channel.

Place one Washers at each end.

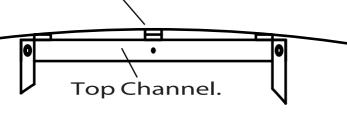




Two washers to centre.

Dome effect to Cab Top, for water run off.







Note: Number of washers may vary, between coolers.



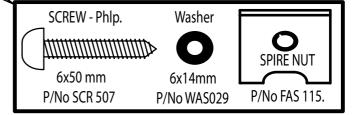
### **RPX ASSEMBLY INSTRUCTIONS**



## Cabinet Top Final Assembly. Step 2 of 3.



Fit screw and washer, to centre hole of Top Channel, through to plastic washers and Top Channel.



Note: Position of Spire Nut.



Screw (air) driver.

Pliers.

Use suitable pliers to hold Spire nut.

Secure Cabinet Top.

Repeat same for opposite side.





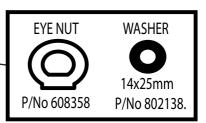
#### **RPX ASSEMBLY INSTRUCTIONS**

## F

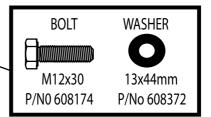
## Cabinet Top Final Assembly. Step 3 of 3.



Attach Lifting Eyenut to Cooler



Fit washer under Eyenut.



Fit bolt and washer, thru 12.5 mm holes in Top Channel, through two plastic Washers, Cabinet Top and Eyenut.

Secure and tighten.



Repeat same for other three lifting Eyenuts.

When completed, remove all squaring braces.



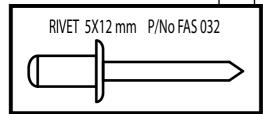


### **RPX ASSEMBLY INSTRUCTIONS**

### **Final Riveting**



Rivet to four Cabinet Top corners.

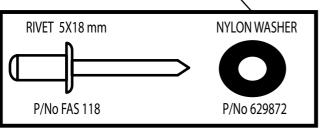


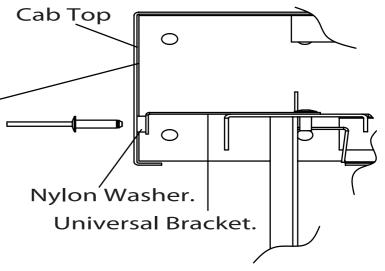


Rivet the four Corner pillars at the Base Frame. If necessary drill 5mm to clear holes.



Fasten thru Cabinet Top Rail and Bracket.





Fit Nylon Washer between Cab Top and Universal Bracket.

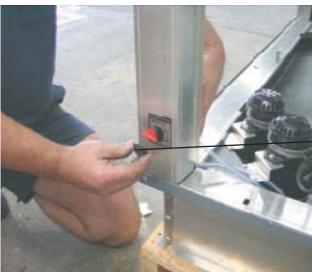
Repeat same for other three sides.



#### Installation of Bleed Valve.



Place Bleed Sticker on Corner Pillar over hole

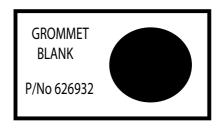


Pass bleed tap valve through hole opening and fit rubber Grommet over valve body.



Note: Apply some White Petroleum Jelly, or other similar lubricant to Grommet for ease of installation.

Cable tie bleed hoses together.



Fit Blank Grommet to other three holes.









## Clean and Test Cooler.

- Step 1: Check that all fasteners are tightly secured, and all riveting is completed.
- Step 2: Remove all plastic covering from panels.
- Step 3: Vacuum clean inside tank.
- Step 4: Use cloth and suitable cleaning solution, wipe down inside and outside of cooler.
- Step 5: Set overloads for High and Low speeds, as per electric motor ratings.
- Step 6: Test cooler for normal running conditions. refer to Appendix 1 RPX Test Procedure
- Step 7: Apply Serial Number to unit.
- Step 8: Fit pads to cooler.



Completed RPX 900D







## Washers part numbers.



Washer 5.6x11x 0.8mm. SS P/No WAS031



Washer 6x14x1.2mm. SS P/No WAS029



Washer 8x19x1.2mm. SS P/No WAS163



Washer 9x25x1.5mm. SS P/No WAS035



Washer 14x25x1.5mm. SS P/No 802138



Washer13x44x2.5mm G/Bond P/No 608372



Washer 6.5x50 x5mm Poly. P/No WAS 121



Washer 13x50x5mm Poly. P/No 608303



Washer 9x25x2.5mm G/Bond P/No 627984

Nylon Washer P/No 629872





Spire nut U type P/No FAS115





## Bolts and nuts part numbers.



Bolt M6x20.SS. P/No 628226



Bolt M8x20. SS. P/No 628240



Bolt M8x30.SS. P/No 628257



Bolt M12x30. SS. P/No 608174



Grub screw 5/16 BSW 19mm long.
P/No SCR433



Eyenut M12 P/No 608358



Nut M6 Nyloc SS. P/No 628271



Nut M8 Nyloc SS. P/No 628288

## Note:

Stainless steel bolts and nuts are used in the assembly of coolers.
A thread lubricating compound anti seize should be used at assembly.

Anti Seize not supplied.





## Screws and rivets part numbers.



Screw 19x5mm Phlp. SS. P/No 9610013



Screw 50x6mm Phlp. SS. P/No SCR507



Screw 25x6mm Phlp. SS. P/No SCR 384



Wafer Screw 25x4mm Phlp. P/No SCR506



Rivet 5x18mm Al. P/No FAS118



Rivet 3.2x8mm Al. P/No FAS300



Rivet 5x12mm Al. P/No FAS032



Rivet 5x25mm Al.





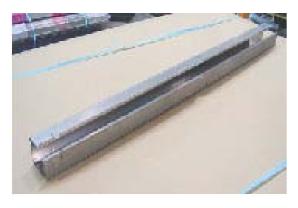
## Panels part numbers.



Bottom Rail P/No 626789



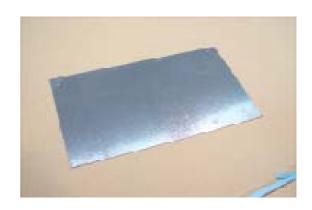
Centre Rail P/No 626772



Corner Pillar P/No 626697



Top Rail P/No 626482



Anti Vortex P/No 627229



Universal Bracket P/No 626567





## Panels part numbers, cont.



Motor Platform P/No 623184



Water spreader P/No 506609



Flashing Angle. P/No 100152



Centre Pillar P/No 627892



Top/Bearing Channel P/No 623139



Base Channel R/H P/No 623160 L/H P/No 627168





## Misc. part numbers.



Label Bleed Control. P/No 998053.



Label Serial Number.
P/No 025101



Label O/Load Instructions.
P/No 111500



Grommet Blank. P/No 626932



Grommet Bleed Valve.
P/No 999236



Cable Tie 140mm. P/No FAS213.



125 x2A Mtr Pulley. P/No 626987.



Bush Taper Lock..
P/No 822044.



460mm Pulley. P/No 111500







## Misc. part numbers, cont.



Overflow Assy. P/No 609737.



2 Speed switch Assy. P/No 626680



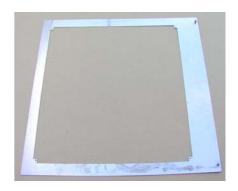
Mounting block. P/No 200103



A Section V Belts. P/No Vba91.



Silicone Sealant. P/No MIS508.



Down Discharge Template cutout.

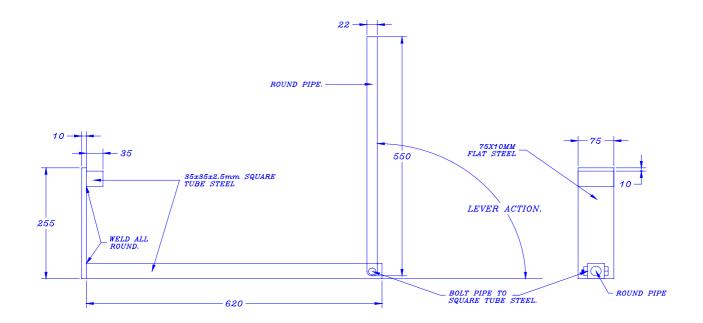


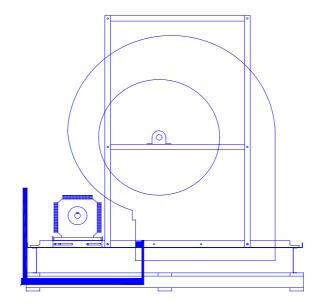
Diagonally square braces.





# Special jig to assist when securing Flashing Angle to Fan Housing.





**Note: Cooler must be on pallet** 

Place tool to centre of cooler, lever upwards to push inside of fan housing to flashing angle.





### **RPX 900 'D' KIT.**



RESERVOIR, BASE FRAME AND ACCESSORIES.



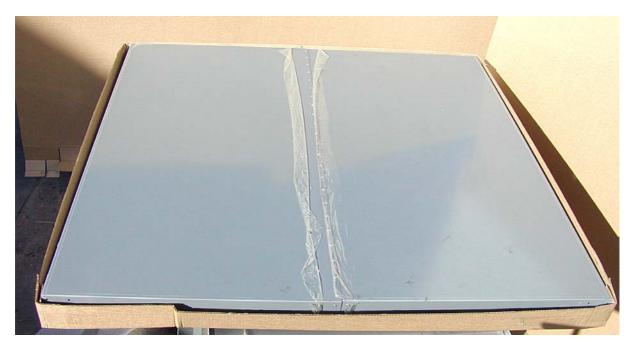


FAN HOUSING AND 'H' FRAME ASSEMBLY.





### **RPX 900 'D' KIT.**



CABINET TOP 'D' ASSEMBLY.



PADS ASSEMBLY.

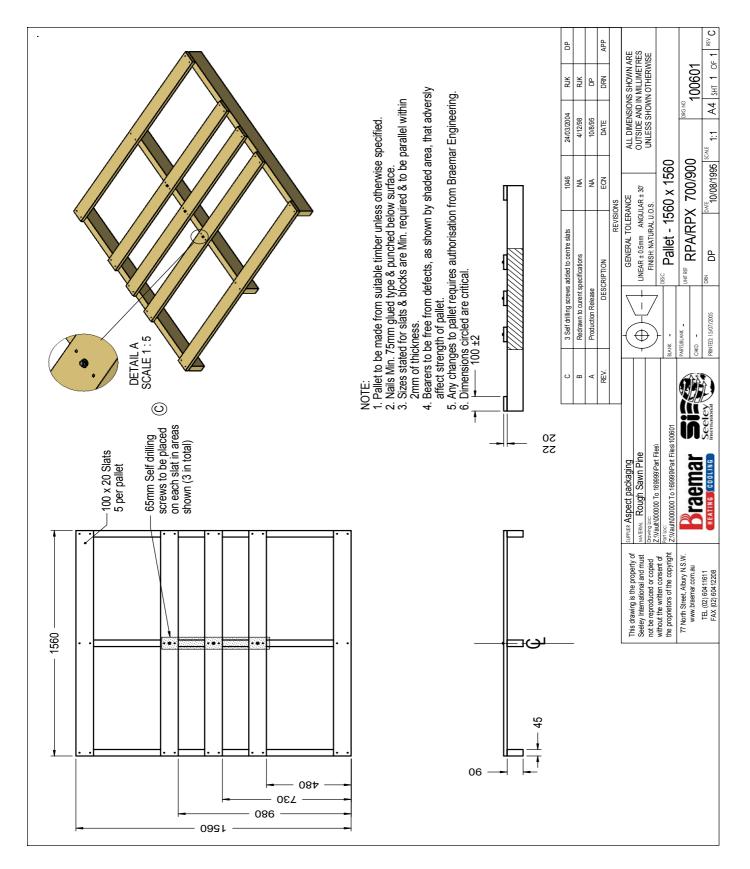


HARDWARE KIT 9655147.



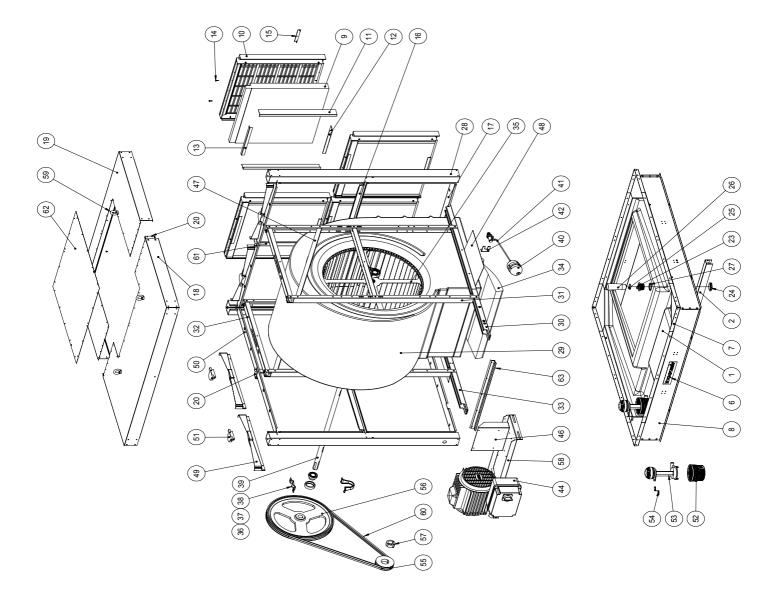


### **RPX PALLET SPECIFICATIONS**





## **RPX 900D EXPLODED VIEW**



TEM NO.	P/N	DESCRIPTION Recentair - Poly	ΔI,
- 2	62393	Channel - Reservoir Support	
9	855288	Label Breezair	2
7	627854	Base Frame Assy - Painted	-
8	623948	Base Fra e Support	4
6	626727		16
10	505732	Pad Frame EA S   Grey	16
1	627816	Angle PFA 55 x 21 x 545mm	32
12	627809	Angle Bottom PFA 55 x 21 x 250mm	91
13	627823	Angle PFA 21 x 21 x 300mm	16
4	SCR266	Streaker No8 x 5/8 S/S	128
5 6	515809	Label "Breezair" EA Pad Frame	9 ,
2 5	627015	Rottom Bail CBEV	4 4
- 6	628455	Cabinet Top Common "T"	
5 6	628479	Cabinet Top Rear RPB1000"T"	
20	626567	Bracket Universal	9
23	535500	Bush Funnel 11/2" BSP	-
24	535401	Nut11/2" BSP	-
25	804415	O Ring BS128 1 1/2" x 3/32"	-
26	608884	Overflow Pipe 40mm	-
27	200105	Washer Rubber 58*48	-
28	627922	Pillar Cnr Grey 82x82x64	4
29	111401	Blower Housing 16/19	-
30	623160	Base Channel RH - Painted	-
31	626710	Channel - Vertical Painted	4
35	623139	Channel bearing & 10p Ptd	4 ,
32 33	100150	Dase Originel M1 - Pallited	
32	111455	Blower Wheel Assy 16/19 1 1/4"	
36	067004	Bearing - 1 1/4" inc Locking Collar	2
37	067002	Rubber Insert 1 1/4"	2
38	067003	Bearing Housing 1 1/4"	2
39	100240	Shaft 1 1/4" x 960mm SS	-
40	020802	Float 4"	-
41	020803	Float Valve 1/2"	1
42	616056	Bracket Water Inlet	-
28	623184	Motor Platfor 700/900 Ptd	-
44	100155	Isolation Box 3Ph Large	-
45	111221	Motor 4.5kW 3 Phase 2 Speed	-
46	628981	Mount Isolation Box Painted	-
47	620992	Brace "H" Frame Ptd	2
48	627229		2
46	506609	Water Spreader S all EA	
20	626482	20 1	4
51	523002	Cap Spreader IND S all	æ «
25	999293	Ket Moulded	2 0
2 2	607036	Pullip EB 240V 30 PZ & J BOX	7 0
5 15	626987	Pulley Motor 125 x 2A Taper	4 -
92	111500	Pullev Fan 450 (18") x 2A x 31.75 (1 1/4")	
57	822044		-
59	608358	Eyebolt Nut M12	4
09	VBA91	Vee Belt A91	2
61	627892	Centre Pillar Grey	4
62	630342	Blanking Plate - RPX "T" Cab Top	-
00	100156	Flashing Strip Unpainted	







## RPX INDUSTRIAL AIR CONDITIONERS



Wiring Diagram - Two Speed Three Phase.

Advanced natural cooling

